

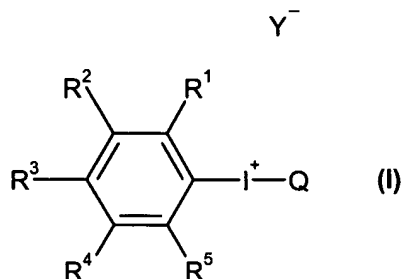
Please amend page 26, line 1 as follows:

Claims What is claimed is:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1) (Original) A method for the production of an aromatic fluorine-labelled compound comprising fluoridation of an iodonium salt with a fluoride ion source characterised in that the reaction mixture contains a free radical trap.
- 2) (Original) The method of claim 1 wherein the free radical trap is selected from 2,2,6,6-Tetramethylpiperidine-N-Oxide, 1,2-diphenylethylene, ascorbate, para-amino benzoic acid, α -tocopherol, hydroquinone, di-t-butyl phenol, β -carotene and gentisic acid.
- 3) (Currently amended) The method of ~~either of claims 1 or 2~~ claim 1 wherein the free radical trap is 2,2,6,6-Tetramethylpiperidine-N-Oxide or 1,2-diphenylethylene.
- 4) (Currently amended) The method of ~~any of claims 1-3~~ claim 1 wherein the fluoride ion source is selected from potassium fluoride, caesium fluoride and tetraalkylammonium fluoride.
- 5) (Original) The method of claim 4 wherein the fluoride ion source is potassium fluoride and KryptofixTM is used to activate the fluoride ion.
- 6) (Currently amended) The method of ~~any of claims 1-5~~ claim 1 wherein the iodonium salt is of Formula I:



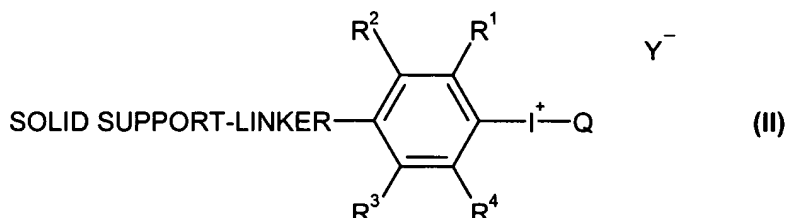
wherein:

Q is a precursor of the fluorine-labelled compound ;

R¹-R⁵ are independently selected from hydrogen, nitro, cyano, halogen, C₁₋₁₀ hydroxyalkyl, C₂₋₁₀ carboxyalkyl, C₁₋₁₀ alkyl, C₂₋₁₀ alkoxyalkyl, C₁₋₁₀ hydroxyalkyl, C₁₋₁₀ aminoalkyl, C₁₋₁₀ haloalkyl, C₆₋₁₄ aryl, C₃₋₁₂ heteroaryl, C₃₋₂₀ alkylaryl, C₅₋₁₂ arylene, C₂₋₁₀ alkenyl, C₂₋₁₀ alkynyl, C₁₋₁₀ acyl, C₇₋₁₀ aroyl, C₂₋₁₀ carboalkoxy, C₂₋₁₀ carbamoyl, C₂₋₁₀ carbamyl, or C₁₋₁₀ alkylsulphinyl, or protected versions of any of these groups; or alternatively forms a four- to six-membered ring together with the R group to which it is adjacent, or protected versions thereof; and,

Y⁻ is an anion selected from triflate, nonaflate, mesylate and hexaflate.

- 7) (Currently amended) The method of ~~any of claims 1-5~~ claim 1 wherein the iodonium salt is solid support-bound as in Formula II:



wherein:

Q is a precursor of the fluorine-labelled compound; and,

R¹-R⁴ and Y⁻ are ~~as defined for Formula I of claim 6~~ independently selected from hydrogen, nitro, cyano, halogen, C₁₋₁₀ hydroxyalkyl, C₂₋₁₀ carboxyalkyl, C₁₋₁₀ alkyl, C₂₋₁₀ alkoxyalkyl, C₁₋₁₀ hydroxyalkyl, C₁₋₁₀ aminoalkyl, C₁₋₁₀ haloalkyl, C₆₋₁₄ aryl, C₃₋₁₂ heteroaryl, C₃₋₂₀ alkylaryl, C₅₋₁₂ arylene, C₂₋₁₀ alkenyl, C₂₋₁₀ alkynyl, C₁₋₁₀ acyl, C₇₋₁₀ aroyl, C₂₋₁₀ carboalkoxy, C₂₋₁₀ carbamoyl, C₂₋₁₀ carbamyl, or C₁₋₁₀ alkylsulphinyl, or protected versions of any of these groups; or alternatively forms a four- to six-membered ring together with the R group to which it is adjacent, or protected versions thereof; and,

Y⁻ is an anion selected from triflate, nonaflate, mesylate and hexaflate.

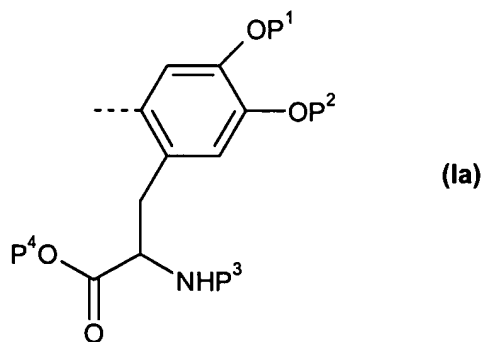
- 8) (Currently amended) The method of ~~either of claims 6 or 7~~ claim 6 wherein Q is an aryl group optionally substituted by 1 to 5 substituents independently selected from

nitro, cyano, halogen, C₁₋₁₀ hydroxyalkyl, C₂₋₁₀ carboxyalkyl, C₁₋₁₀ alkyl, C₂₋₁₀ alkoxyalkyl, C₁₋₁₀ hydroxyalkyl, C₁₋₁₀ aminoalkyl, C₁₋₁₀ haloalkyl, C₆₋₁₄ aryl, C₃₋₁₂ heteroaryl, C₃₋₂₀ alkylaryl, C₅₋₁₂ arylene, C₂₋₁₀ alkenyl, C₂₋₁₀ alkynyl, C₁₋₁₀ acyl, C₇₋₁₀ aroyl, C₂₋₁₀ carboalkoxy, C₂₋₁₀ carbamoyl, C₂₋₁₀ carbamyl, or C₁₋₁₀ alkylsulphinyl, or protected versions of any of these groups; or alternatively forms a four- to six-membered ring together with the R group to which it is adjacent, or protected versions thereof.

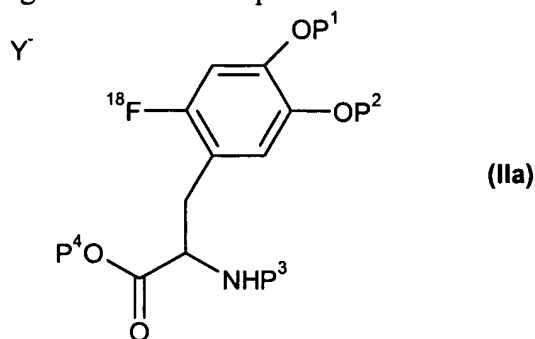
9) (Currently amended) The method of ~~any of claims 1-8~~ claim 1 wherein the fluorine-labelled compound is an [¹⁸F]-labelled compound and the fluoride ion source is a source of ¹⁸F⁻.

10) (Original) The method of claim 9 wherein the [¹⁸F]-labelled compound is [¹⁸F]-FDOPA.

11) (Currently amended) The method of ~~any of claims 6-10~~ claim 6 wherein the precursor is of Formula Ia:



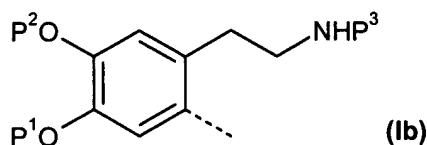
wherein P¹, P², P³, and P⁴ are each independently hydrogen or a protecting group; said method producing the labelled compound of Formula IIa:



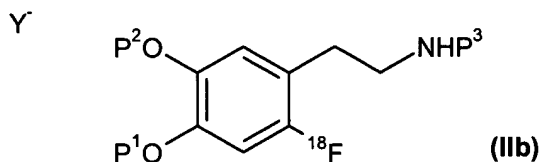
wherein P^1 , P^2 , P^3 , and P^4 are each independently hydrogen or a protecting group and Y^- is an anion, preferably trifluoromethylsulphonate (triflate) anion.

12) (Original) The method of claim 9 wherein the $[^{18}\text{F}]$ -labelled compound is $[^{18}\text{F}]$ -dopamine.

13) (Currently amended) The method of ~~any of claims 6-10 and 12~~ claim 6 wherein the precursor is of Formula Ib:



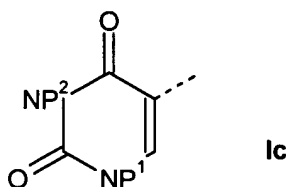
wherein P^1 , P^2 , and P^3 are each independently hydrogen or a protecting group; said method producing the labelled compound of Formula IIb:



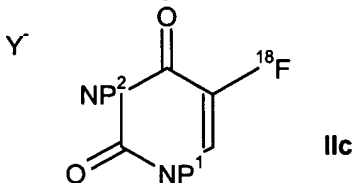
wherein P^1 , P^2 , and P^3 are each independently hydrogen or a protecting group and Y^- is an anion, preferably trifluoromethylsulphonate (triflate) anion.

14) (Original) The method of claim 9 wherein the $[^{18}\text{F}]$ -labelled compound is $[^{18}\text{F}]$ -uracil.

15) (Currently amended) The method of ~~any of claims 6-10 and 14~~ claim 6 wherein the precursor is of Formula Ic:



wherein P^1 and P^2 are each independently hydrogen or a protecting group; said method producing the labelled compound of Formula IIc:



wherein P^1 and P^2 are each independently hydrogen or a protecting group and Y^- is an anion, preferably trifluoromethylsulphonate (triflate) anion.

16) (Currently amended) The method of ~~any of claims 9-15~~claim 9, further comprising:

- (i) removal of excess $^{18}\text{F}^-$, for example by ion-exchange chromatography; and/or
- (ii) removal of the protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound as an aqueous solution.

17) (Currently amended) An [^{18}F]-labelled compound produced by the method of ~~any of claims 1-16~~claim 1.